UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/752,994	12/30/2000	Shuvranshu Pokhariyal	42390P10364	9840

			EXAMINER
7590	01/19/2006		JACKSON, JAKIEDA R

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ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/752,994	POKHARIYAL ET AL.
	Examiner	**Art Unit**	
	Jakieda R. Jackson	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 November 2005</u>.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2 and 4-21</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) <u>1-2 and 4-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   In response to the Office Action mailed August 3, 2005, applicant submitted an

amendment filed on November 7, 2005, in which the applicant amended and requested

reconsideration with respect to **claims 1, 6, 9, 12, 15 and 18.**

Response to Arguments

2.   Applicant's argue that "return the "N" most likely members of the recognition

grammar" language of Beutnagel does not make a distinction between generic and non-

generic words, as does the amended claimed invention. However, according to the

claimed invention and the Beutnagel reference, the generic words are *previously*

removed from the set of potential words spoken by the user (which leaves **ONLY** non-

generic words to choose from) *and then* it selects a non-generic word from the set of

potential words spoken by the user having a highest confidence level. Beutnagel also

teaches that the recognition eliminates the trial and error in finding a correct

pronunciation form among the list of candidates, otherwise the end-user might have to

listen to tens or hundreds of candidate pronunciations (column 5, line 57 – column 6,

line 3). Therefore, applicant's arguments are not persuasive.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1-21** are rejected under 35 U.S.C. 103(a) as being unpatentable over

Schmid et al. (U.S. Publication No. 2002/0143529), hereinafter referenced as Schmid in

view of Beutnagel (USPN 6,708,885).

Regarding **claims 1, 9 and 15,** Schmid discloses a method, machine-readable

medium, apparatus and system, hereinafter referenced as a "system" comprising:

creating a rule-based grammar (column 5, paragraph 0070) having a wildcard

identifier in place of a predefined category of words (wildcard transition; figure 3,

element 326 with column 1, paragraph 0003);

defining rules (rule interpreter; figure 2, element 214) to produce artificial

combinations of unique sounds in a language (phoneme; column 6, paragraph 0088

with 0084), where each artificial combination represents a pronunciation of the words

(paragraph 0088) in the predefined category (set of selected phrases; column 1,

paragraph 0003), and represents a generic word (dictation grammar) that is defined in

a speech engine's vocabulary database (column 1, paragraph 0008 with column 3,

paragraph 0034);

generating a set of artificial combinations of unique sounds (phoneme; column 6,

paragraph 0088 with paragraph 0092 and 0095) by substituting the wildcard identifier

with the rules (column 1, paragraph 0003); and

in response to human speech specifying a wildcard word, determining a number

of potential words spoken by the user by finding the generic words (dictation grammar;

column 1, paragraph 0008) and non-generic words (optional word "please"; column 3,

paragraph 0041) that phonetically match the wildcard word (column 7, paragraph

0095), and then assigning each of the words a confidence level (plus or minus with

high and low confidence level; column 7, paragraph 0095), but lacks wherein the non-

generic words are not a part of the rule-based grammar, assigning each of the generic

and non-generic words confidence level based on a set of rules followed by the speech

engine, removing the generic words from the set of potential words spoken by the user,

and selecting a remaining word from the set of potential words spoken by the user

having a highest confidence level.

Beutnagel discloses speech synthesis and recognition systems for determining a

set of potential words spoken by a user (known words; column 7, lines 24-26) by

finding the generic (figure 1, element 105; column 2, lines 66-67 with column 4, lines

27-47 and column 5, line 66 – column 6, line 3) and non-generic words (figure 1,

element 110 with column 7, lines 24-26) that phonetically match (match the individual

phonemes; column 5, lines 57-66) the wildcard (word at hand; column 4, lines 52-63

with will not know; column 5, lines 32-56) wherein the non-generic words are not a part

of the rule-based grammar (figure 1, element 110 with column 2, lines 61-64),

assigning each of the generic and non-generic words confidence level based on a set

of rules followed by the speech engine (column 5, lines 5-12), removing the generic

words from the set of potential words spoken by the user (return the "N" most likely

members of the recognition grammar; column 6, lines 20-30), and selecting a

remaining non-generic word from the set of potential words spoken by the user having

a highest confidence level (report the member with the highest overall probability; column 5, line 57 – column 6, line 3), to provide an improved synthesis and recognition system that automatically determines the phonetic transcription that corresponds to the spoken word.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Schmid's system wherein the non-generic words are not a part of the rule-based grammar, assigning each of the generic and non-generic words confidence level based on a set of rules followed by the speech engine, removing the generic words from the set of potential words spoken by the user, and selecting a remaining word from the set of potential words spoken by the user having a highest confidence level, to prevent end-users from wasting time and energy from constructing alternative pronunciations and making the mistake of not knowing all the proper phonetic transcriptions (column 1, lines 21-37), by providing an improved synthesis and recognition system that automatically determines the phonetic transcription that corresponds to the spoken word (column 2, lines 12-23).

Regarding **claims 2, 10, 13, 16 and 20**, Schmid discloses a system wherein the rule-based grammar comprises a context-free grammar (CFG) (context-free grammar engine; figure 2, element 202).

Regarding **claim 3**, Schmid discloses a system for utilizing speech grammar rules written in a markup language, but lacks wherein the remaining word is a non-generic word.

Beutnagel discloses speech synthesis and recognition systems wherein the

remaining word is a non-generic word (return the "N" most likely members of the

recognition grammar; column 6, lines 20-30), to obtain the best pronunciation of the

word.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Schmid's system wherein the remaining word is

a non-generic word, to provide an improved synthesis and recognition system that

automatically determines the phonetic transcription that corresponds to the spoken

word (column 2, lines 12-23).

Regarding **claims 4, 8, 11, 14, 17 and 19**, Schmid discloses a system wherein a

unique sound in a language comprises a phoneme (column 6, paragraph 0088 with

column 7, paragraph 0092).

Regarding **claims 5 and 21**, Schmid discloses the system wherein said

generating a set of artificial combinations of unique sounds (phonemes; column 6,

paragraph 0088 with column 7, paragraph 0092) by substituting (substitutes) the

wildcard identifier (entire state diagram) with the rules (column 4, paragraph 0045 with

column 5, paragraph 0068) comprises converting the wildcard rule-based grammar into

a standard rule-based grammar (figure 3 with transition from state to state through

rules; column 9, paragraph 0129).

Regarding **claim 6**, Schmid discloses a method comprising:

specifying a wildcard context-free grammar (CFG)(figure 2, element 202), which

includes a wildcard identifier in place of a predefined category of words (a set of

selected phrases; column 1, paragraph 0003), each of which are defined in the speech

engine's vocabulary database (column 3, paragraph 0034);

specifying a set of rules (setting the PRON) that define artificial combinations of

unique sounds in a language (phoneme), where each artificial combination represents

a pronunciation of the words (pronunciation of words) in the predefined category

(column 6, paragraph 0088 with column 7, paragraph 0090-0092 and column 1,

paragraph 003), and corresponds to a generic word that is defined in a speech

engine's vocabulary database (column 3, paragraph 0034);

converting the wildcard CFG file into a recognized CFG grammar file (figure 3) by

generating a set of artificial combinations of unique sounds based on the rules

(phonemes; column 6, paragraph 0088 with paragraph 0092); and in response to

human speech having one or more spoken units (speech recognition engine; figure 2,

element 204), generating a results object (results produced) having a number of

generic words (given number; column 9, paragraph 0117) corresponding to artificial

combinations appropriate to a given spoken unit (phoneme), and having a number of

non-generic words (optional words; column 3, paragraph 0041) in the speech engine's

vocabulary database appropriate to a given spoken unit (column 3, paragraph 0034),

each generic word and non-generic word having an associated confidence level

(column 7, paragraph 0095), but lacks wherein the non-generic words are not a part of

the rule-based grammar, assigning each of the generic and non-generic words

confidence level based on a set of rules followed by the speech engine, removing the

generic words from the set of potential words spoken by the user, and selecting a

remaining word from the set of potential words spoken by the user having a highest

confidence level.

Beutnagel discloses speech synthesis and recognition systems for determining a

set of potential words spoken by a user (known words; column 7, lines 24-26) by

finding the generic (figure 1, element 105; column 2, lines 66-67 with column 4, lines

27-47 and column 5, line 66 – column 6, line 3) and non-generic words (figure 1,

element 110 with column 7, lines 24-26) that phonetically match (match the individual

phonemes; column 5, lines 57-66) the wildcard (word at hand; column 4, lines 52-63

with will not know; column 5, lines 32-56) wherein the non-generic words are not a part

of the rule-based grammar (figure 1, element 110 with column 2, lines 61-64),

assigning each of the generic and non-generic words confidence level based on a set

of rules followed by the speech engine (column 5, lines 5-12), removing the generic

words from the set of potential words spoken by the user (return the "N" most likely

members of the recognition grammar; column 6, lines 20-30), and selecting a

remaining non-generic word from the set of potential words spoken by the user having

a highest confidence level (report the member with the highest overall probability;

column 5, line 57 – column 6, line 3), to provide an improved synthesis and recognition

system that automatically determines the phonetic transcription that corresponds to the

spoken word.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Schmid's system wherein the non-generic

words are not a part of the rule-based grammar, assigning each of the generic and

non-generic words confidence level based on a set of rules followed by the speech

engine, removing the generic words from the set of potential words spoken by the user,

and selecting a remaining word from the set of potential words spoken by the user

having a highest confidence level, to prevent end-users from wasting time and energy

from constructing alternative pronunciations and making the mistake of not knowing all

the proper phonetic transcriptions (column 1, lines 21-37), by providing an improved

synthesis and recognition system that automatically determines the phonetic

transcription that corresponds to the spoken word (column 2, lines 12-23).

Regarding **claim 7**, Schmid discloses a system comprising querying the results

object for having the highest confidence level in the speech engine's vocabulary

database (highest confidence level; column 7, paragraph 0095).

Regarding **claim 12**, it is interpreted and rejected for the same reasons as set

forth in claim 1. In addition, Schmid discloses an apparatus comprising:

at least one processor (processing unit; figure 1, element 120); and

a machine-readable medium (computer readable instructions/media) having

instructions encoded thereon, which when executed by the processor, are capable of

directing the processor (column 2, paragraph 0026 and 0027).

Regarding **claim 18**, it is interpreted and rejected for the same reasons as set

forth in claim 1. In addition, Schmid discloses a system comprising:

a conversion module (figure 3) to accept a wildcard rule-based grammar file as

input, and to convert the wildcard rule-based grammar file to a set of artificial

combinations of unique sounds in a language (phoneme; column 6, paragraph 0088

with column 7, paragraph 0092);

a speech engine (figure 2, element 204) to accept human speech having a

wildcard word as input (column 8, paragraph 0112), and to determine a number of

potential words matching the wildcard word (column 7, paragraph 0095), the potential

words comprising a number of generic words (dictation grammar; column 1, paragraph

0008) corresponding to the artificial combinations of unique sounds in a language

(phoneme; column 6, paragraph 0088 with column 7, paragraph 0092), and a number

of non-generic words (optional words; column 3, paragraph 0041); and

a speech adapter (network interface; figure 1, element 170 with column 3,

paragraph 0033) to interact with the speech engine by querying the speech engine for

potential words matching the wildcard word (represent phrases), and by returning the

word most likely to match (determines the likelihood) the wildcard word spoken by the

user (column 3, paragraph 0034).

Conclusion

5.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jakieda R. Jackson whose telephone number is

571.272.7619. The examiner can normally be reached on Monday through Friday from

7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Wayne Young can be reached on 571.272.7582. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

January 12, 2006
JRJ

SUSAN MCFADDEN
PRIMARY EXAMINER